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THE INSECT PEST SURVEY
BULLETIN

A periodical review of entomological conditions throughout the United States
issued on the first of each month from March to December, inclusive.

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Number 1

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INSECT PEST SURVEY BULLETIN

Vol. 11

March 1, 1931

No. 1

OUTSTANDING ENTOMOLOGICAL FEATURES IN THE UNITED STATES FOR JANUARY AND FEBRUARY, 1931.

In introducing Volume 11 of the Insect Pest Survey Bulletin, we wish to express the gratitude which the Survey feels for the many commendations received from its readers on the last Summary Number. The quality of this number, and, in fact, of the entire Survey Bulletin, is to a very large extent attributable to the increasing cooperation which we are receiving from our collaborators. Probably the most influential factor in this increased efficiency is the appreciation by the entomologists of the States of the value of State Surveys. Each year additional States include this phase of work as a major project, and with each State Survey set up, the Federal Insect Pest Survey's picture of the entomological conditions in that State advances materially.

The Survey wishes also at this time to remind its collaborators that it is now in position to assist them materially in working up geographical distribution and lists of host plants and of parasites of individual pests. It can not, however, undertake the preparation of comprehensive lists of insects, although its files are always open to research workers who find it possible to visit Washington. About 20 requests for informational service were filed during the past year.

Quite naturally, when such a large mass of information from so many and varied sources is received, mistakes in determination and interpretation will occur. The Survey invites its readers to criticise any feature of the material that it publishes and urges them to send in corrections promptly in order that mistakes may not remain in the permanent records of the Survey but may be corrected in subsequent numbers of the Bulletin.

The very remarkable drought that prevailed over a large part of the country last year will undoubtedly have a marked effect on the abundance of many insects. The very mild winter that has prevailed over an equally large region will also probably be reflected in insect abundance. Our collaborators should strain every effort this year to

give the Survey as complete a picture as possible of the relative abundance of the various insects of their respective territories.

During the very warm weather of late January and early February, reports were received from Missouri and South Dakota of emergence of grasshoppers. It was at first believed that this was precocious hatching, but later evidence seems to indicate that it was merely the emergence from hibernation of such species of grasshoppers as spend the winter in the early nymphal stages.

This same warm weather resulted in reports of the appearance of cutworms in Missouri, and we also have a report of damage to strawberry buds by cutworms late in February on Bainbridge Island in Washington State.

An interesting observation of the successful hibernation of the pupae of the corn ear worm at Columbia, Mo., has been received. These pupae were alive when the report was made, in the last week of February.

The sugarcane borer appears to have passed the winter in very good condition in Louisiana, though the population that entered hibernation is reported as having been small.

Eggs of the rosy apple aphid seem to be prevalent enough in Pennsylvania to indicate trouble, while in southern Virginia they are so scarce that the entomologists are recommending omitting the aphid treatment in early sprays.

The San Jose scale still seems to be on the increase along the Atlantic seaboard from Pennsylvania to Georgia and westward over the Gulf region.

Reports of very successful hibernation of the codling moth have been received from the New England, Middle Atlantic, South Atlantic, and the southern part of the East Central States.

The vegetable weevil has been reported from practically the entire infested territory as affecting winter truck crops.

The spotted cucumber beetle is reported as doing more or less damage in the Gulf region. This condition, however, is not unusual.

The banded cucumber beetle is reported as quite generally distributed over Florida. Although known for several years from the western part of the State, it is a new pest on the peninsula.

The western spotted cucumber beetle started leaving winter quarters during late January in Oregon.

The asparagus miner is reported for the first time from southern California. It has been known for some time as a pest in the San Joaquin and Sacramento Valleys.

A heavy migration of the turnip aphid was observed in Galveston County, Texas, on February 2.

During the last week in January and the first week in February, the European earwig was observed active at several points in Oregon.

GENERAL FEEDERS

GRASSHOPPERS (Acrididae)

Florida

X J. R. Watson (February 24): Grasshoppers are moderately abundant in Florida.

Missouri

Washington Evening Star (February 1): "Hopping insects were brought in from the country near Marshall yesterday by L. D. Murrell, banker. His assertion that they were grasshoppers was supported by most local entomology experts, who said never before had the insects been observed in January."

L. Haseman (February 26): During the noon hour today at Columbia, with the temperature I should say in the 60's and with a bright warm sun, I did some scouting for freshly hatched grasshopper nymphs, covering a distance of something like a mile in pastures, along rocky hillsides, meadows and truck patch, but was unable to locate a single individual. I am rather of the opinion the recent reports must either have referred to early hatching on warm south slopes, or else they may have referred to the species which may winter with us in the partly grown nymph stage. I failed to find any of these partly grown specimens of nymphs either.

South Dakota

H. C. Severin (February 19): It has been claimed by some of our people living in the western part of the State where grasshopper outbreaks were most serious last year that grasshopper eggs have already hatched. This may be true, but I doubt it very much, for we have quite a number of species of grasshoppers that hibernate in a nymphal stage and it is probably such nymphs that the reporters saw.

Mississippi

Henry Dietrich (February 25): Grasshoppers were moderately abundant in George County until the middle of December, 1930.

Arizona

C. D. Lebert (February 25): Melanoplus spp. and Schistocerca spp. are scarce.

CUTWORMS (Noctuidae)

Florida

X J. R. Watson (February 24): Cutworms are scarce; less than usual.

Missouri

L. Haseman (February 26): Partly grown cutworms are out at Columbia.

Mississippi

H. Dietrich (February 25): Cutworms were bad on turnips in George County last November but have been negligible all winter.

Texas F. L. Thomas (February 27): As yet we have received no complaints of cutworms.

Arizona C. D. Lebert (February 25): Agrotis ypsilon Rott. is moderately abundant in Salt River Valley.

Washington Wm. W. Baker (February 26): Japanese strawberry growers on Bainbridge Island report two kinds of cutworms as working on the buds of strawberries at this time and state that they have never observed them working this early during previous seasons. Two of the growers have promised to send in material for determination.

WIREWORMS (Elateridae)

Kansas H. R. Bryson (February 20): Wireworms became active near the surface at Manhattan unusually early this year.

WHITE GRUBS (Phyllophaga spp.)

Kansas H. R. Bryson (February 20): Owing to the recent high temperatures, white grubs are very close to the surface at Manhattan.

CEREAL AND FORAGE - CROP INSECTS

Wheat

HESSIAN FLY (Phytophaga destructor Say)

Missouri L. Haseman (February 23): The Hessian fly infestation is more or less scattered similar to last year, but thus far this pest has survived the winter in fine shape. Some samples taken earlier in the winter showed a very high percentage of parasitism, while others near Columbia show little or none.

CORN

CHINCH BUG (Blissus leuconterus Say)

Missouri L. Haseman (February 23): The weather up until the last few weeks has been ideal for chinch bugs, as we had little moisture prior to February. The present cool rains are not so favorable for the bugs, however.

Kansas H. R. Bryson (February 20): There are very few chinch bugs to go into hibernation at Manhattan this winter. Large numbers went into winter quarters in southern Kansas, but effective burning in a number of counties may reduce the population considerably.

CORN EAR WORM (Heliothis obsoleta Fab.)

Missouri

L. Haseman (February 23): A plant in my garden set aside for corn ear worm studies shows that the pupae have survived the winter, so, ^{far} almost perfectly. Of 8 pupae dug up on February 8, 7 were perfect, one apparently having been killed by a fungus. Furthermore, these were only on the average about 4 inches below the surface of the ground, each with its characteristic exit hole, which I noted in this case ran almost vertical, rather than sloping as it is usually described.

SPOTTED CUCUMBER BEETLE (Diabrotica duodecimpunctata Fab.)

Florida

J. R. Watson (February 24): The spotted cucumber beetle is less abundant than usual.

Alabama

J. M. Robinson (February 27): The spotted cucumber beetle is moderately abundant on lettuce, turnips and legumes, at Auburn and Fairhope.

Louisiana

W. E. Hinds (February 25): Diabrotica duodecimpunctata are flying actively and appear to be present in at least average numbers.

Mississippi

K. L. Cockerham (February 1): On February 1, when spraying Satsuma orange trees at Biloxi, these beetles were observed to fly out of the trees in great numbers as the spray mist struck the foliage. The beetles were evidently feeding to some extent on the more or less tender leaves. These beetles have been very plentiful in this section all winter, being noted on various winter truck crops. They have appeared more numerous than usual.

H. Dietrich (February 25): The spotted cucumber beetle has been moderately abundant on turnips at Lucedale all winter.

SUGARCANE BORER (Diatraea saccharalis Fab.)

Louisiana

W. E. Hinds (February 25): The hibernation of the sugarcane borer appears to have been quite successful for the comparatively small borer population entering hibernation. General observations indicate approximately 50 per cent of the hibernating borer larvae alive up to this time. With a very mild winter and an early spring it will likely give opportunity for an extra generation of borers to develop during the following season.

SUGARCANE BEETLE (Euctheola rugiceps Lec.)

Louisiana

W. E. Hinds (February 25): Euctheola rugiceps is present

in some cane fields as adults, as shown during the recent observations following plowing.

FRUIT INSECTS

APPLE

APHIDS (Aphididae)

Pennsylvania

H. E. Hodgkiss (February 24): Eggs of the rosy apple aphid (Anuraphis roseus Baker) appear to be well distributed on the blossom spurs over the trees and very many on water sprouts. This condition is similar to that which occurred in the fall of 1929 and which indicated the rosy aphid outbreak of 1930. I am looking for an unusual abundance of this aphid this spring on account of these conditions.

Virginia

M. P. Jones (March 2): While on a trip to Blacksburg, February 29, we examined an orchard near the station. We found that aphid eggs were so scarce that nicotine will be omitted from the spray this spring. There was no sign of the eggs hatching.

SCALES (Coccidae)

South Dakota

H. C. Severin (February 19): The scale insects have passed the winter very successfully.

Mississippi

R. B. Deen (February 25): Scale insects on peach and apple trees have been observed in very large numbers at Tupelo. Apparently a very large number passed the mild winter and an enormous number of trees will be injured and killed where proper spraying is not practiced.

Washington

Wm. W. Baker (January and February): The young of Lecanium sp. are very numerous on fruit trees and many native shrubs around Puyallup, Sumner, Tacoma, Fairfax, and Eatonville, while at Bellevue, where they were very abundant last year scales are rather scarce. None were found while a number of trees and native shrubs on Bainbridge Island were being examined.

SAN JOSE SCALE (Aspidiotus perniciosus Comst.)

Pennsylvania

H. E. Hodgkiss (February 24): The San Jose scale is even more abundant than was anticipated and in the Cumberland Valley region some orchards are in as bad condition as orchards were in the first years of the San Jose scale outbreak.

Georgia

C. H. Alden (February 19): The San Jose scale is scarce at Cornelia. Moderately abundant at Thomaston, where crawlers were found in orchards.

Oliver I. Snapp (January 20): The percentage of live San Jose scales at Fort Valley on peach trees is somewhat higher this winter than usual. This may be due to absence of low temperatures so far this winter. The average percentage of live scale on peach trees on January 6, 1931, was found to be 91.6. The average percentage on January 15, 1930, was 84.9. On December 1, 1928 it was 63. On December 6, 1927 it was 79.3. And on January 18, 1927, was 75.

Florida

J. R. Watson (February 24): The San Jose scale is moderately abundant.

Mississippi

H. Dietrich (February 25): The San Jose scale is plentiful on peach, pear, and rose in George, Greene, and Perry Counties. It has also been found killing ornamental laurel at Lucedale.

J. F. Kislanko (February 26): The San Jose scale is killing some of the fruit trees in the vicinity of Wiggins.

R. Z. Pepper (February 26): There is quite an abundance of San Jose scale showing up in the peach orchards near Yazoo City.

California

S. Lockwood (February 26): Investigations made during the month have shown that San Jose scale will in all probabilities cause some trouble to peaches in the upper San Joaquin Valley this year. They seem to be fairly abundant. In a few orchards incrustations of some twigs has occurred, though only in a few.

CODLING MOTH (Carpocapsa pomonella L.)

New Hampshire

P. R. Lowry (February): Hibernating larvae appear in about usual numbers in southeastern New Hampshire.

Pennsylvania

H. E. Hodgkiss (February 24): The mortality of codling-moth larvae is difficult to estimate, but there is no reason to expect that the percentage of infestation will be small as the number of larvae going into winter was unusually large.

Georgia

C. H. Alden (February 19): Large numbers of hibernating larvae were found in orchards at Cornelia.

Missouri

L. Hasemen (February 23): We are carrying through an unusually large population of the codling moth, particularly

in the orchards where control was not satisfactory last summer. Winter mortality is very low, as would be expected.

Oregon

D. C. Mote (February 24): No codling moths have pupated as yet in the region of Corvallis.

TEMT CATERPILLARS (Malacosoma spp.)

Washington

W. W. Baker (January and February): The egg masses of two caterpillars, Malacosoma disstria Hbn. and M. pluvialis Dyar, are very scarce on fruit trees and other deciduous trees this season. While making observations at Puget, Fuyallup, Sumner, and Bellevue, and on Bainbridge Island not a single egg mass was found where during the past three seasons they were abundant, except that during the winter of 1929-30 the eggs of pluvialis were rather scarce.

SPRING CANCKER WORM (Paleacrita vernata Peck)

Kansas

H. R. Bryson (February 20): Emergence of the spring canker worm began on February 17 and has not reached its peak at this writing.

FALL CANCKER WORM (Alsophila pometaria Harr.)

Kansas

H. R. Bryson (February 20): Fall canker worms began emerging at Manhattan January 15 and have continued until the present time. The peak of the emergence was reached on January 29, the period of greatest emergence being between January 23 and February 7.

California

S. Lockwood (February 26): During the month, it was found that the fall canker worm eggs were more than normally abundant in cherries in Placer County.

EUROPEAN RED MITE (Paratetranychus pilosus C. & F.)

New Hampshire

F. R. Lowry (February): European red mite eggs are very common in many orchards in southern New Hampshire.

Pennsylvania

H. L. Hodgkiss (February 24): A survey of the eastern Pennsylvania counties indicates that the infestation of the European red spider is rather spotty, although it is sufficient to warrant special attention except in two counties, Delaware and Chester, where oil spray will not be recommended on account of the unusually low percentage of eggs.

CLOVER MITE (Bryobia practiosa Koch)

California S. Lockwood (February 26): The eggs of the brown mite have been less than normal in Flacer County.

PEACH

PEACH BORER (Aegeria exitiosa Say)

Georgia C. H. Alden (February 19): Peach borers are scarce at Cornelia and moderately abundant at Thomaston.

Florida X J. R. Watson (February 24): The peach borer is about as abundant as usual.

Mississippi H. Dietrich (February 25): The peach borer is moderately abundant in George County.

ORIENTAL FRUIT MOTH (Laspeyresia molesta Busck)

Georgia C. H. Alden (February 19): Larvae are hibernating at Cornelia.

PLUM CURCULIO (Conotrachelus nenuphar Hbst.)

Georgia Oliver I. Snapp (February 20): The weather at Fort Valley has not yet been sufficiently cold to bring about the mortality of many adult curculios in hibernation. The minimum temperature to date is 19.8° F., which, according to hibernation records, is not low enough to kill many curculios.

C. H. Alden (February 19): The plum curculio is still in hibernation at Cornelia and Thomaston.

Florida X J. R. Watson (February 24): The plum curculio is still in hibernation.

GRAPE

GRAPE LEAFHOPPER (Erythroneura comes Say)

California E. W. McGregor (February 13): A serious problem concerns two or three species of leafhoppers, particularly the grape leafhopper, which seriously injures grape crops during the active season, and which has somewhat recently developed the habit of migrating into citrus groves at the approach of cool weather in the fall. During 1930 these leafhoppers reached, possibly, the highest point of abundance ever recorded, and over a considerable area were reported as causing great damage to vineyards. Similarly, they were more abundant in orange groves than previously. I believe

that I have connected them with a peculiar blenish on the rind of ripening oranges that has been arousing more and more complaint and speculation. Certain crops suffered considerable reduction in grade from this cause during 1930. The injury evidently is becoming increasingly greater.

E. O. Essig (February 24): Hibernating adults are more numerous than ever before noted.

California

S. Lockwood (February 26): The grape leaf hopper, has evidently wintered very well. The overwintering adults during the warm days are very readily found in the grasses in the vineyards and adjacent roadsides and ditch banks. Unless these are checked, commercial damage will occur over a large part of the San Joaquin Valley.

PACIFIC RED SPIDER (*Tetranychus pacificus* McG.)

California

E.A. McGregor

(February 13): For several years this mite has been becoming increasingly common and disastrous -- chiefly as a pest of vineyards. It is also a serious menace to various deciduous fruit trees and ornamentals. It is my opinion that if its aggregate damage were computed, it would be shown to be the most costly pest operating in the northern three-quarters of California. To say that it is a major pest is no exaggeration.

E. O. Essig (February 24): There are many hibernating mites under the bark of grapevines in the San Joaquin Valley.

BLACKBERRY AND DEWBERRY

RED-NECKED CANE BORER (*Agrilus ruficollis* Fab.)

Mississippi

R. W. Harned (February 23): Dewberry plants that had evidently been injured by the larvae of *Agrilus ruficollis* were received from Winona on February 16. One larva tentatively identified by J. M. Langston as this species was found.

AN APHID (*Amphorophora rubi* Kalt.)

Washington

W. J. Baker (February 12): Eggs and very recently hatched young were found on and close to the buds of evergreen blackberries, especially those near the tip. From one to five or six were usually present in each case and the majority of eggs were more or less concealed in the crevices at the sides of the buds. As the eggs and young appear identical with those found on thimble berry this is possibly *Amphorophora rubi* (Kalt.). In the case of the thimble berry there were

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often ten or twelve eggs at each bud. The writer has often looked for aphids on Evergreen blackberries at Bellevue and Puyallup during the past four years without ever locating any, but as all these observations were made later in the season that fact may account for the failure to find them during those observations.

PECAN

TWIG GIRDLER (Oncideres cingulatus Say)

Mississippi H. Dietrich (February 25): The hickory girdler (Oncideres cingulatus) was very abundant and injurious to pecans in George County during October and November (probably owing to dry summer many adults emerged).

HICKORY SHUCK WORM (Laspeyresia carvana Fitch)

Mississippi R. W. Harned (February 23): J. M. Langston reports that overwintering shuck worms are less numerous this year than they have been during several previous years.

GLOOMY SCALE (Chrysomphalus tenebricosus Comst.)

Alabama J. M. Robinson (February 27): The gloomy scale is moderately abundant on pecans at Fairhope.

CITRUS

GREEN CITRUS APHID (Aphis spiraeicola Patch)

Florida X J. R. Watson (February 24): The green citrus aphid is very scarce, although one occasionally meets a tree with a heavy infestation. This is undoubtedly due to the cold weather causing the citrus trees to be thoroughly dormant without new growth to support aphids. With the possible exception of tangerines, which are always late in putting out their growth, it does not seem at all probable that the aphid will do much damage this spring.

H. T. Fernald (February 24): Aphis spiraeicola probably just appearing on opening citrus leaf buds at Orlando. It is too soon to judge abundance.

MELON APHID (Aphis gossypii Glov.)

California Monthly News Letter, Los Angeles County (February 15): Aphis infestations in the citrus groves of the county have appeared earlier than usual in most localities this season.

Such infestations were present in some areas before the trees started to produce buds. Infestations are becoming heavy at this time in some localities. In many instances the new growth and buds have advanced so materially that it is advisable to control the aphid at this time.

FLORIDA FLOWER THRIPS (Frankliniella tritici bispinosus Morg.)

Florida X J. R. Watson (February 24): The Florida thrips are very scarce. This is undoubtedly due to the cold weather causing the citrus trees to be thoroughly dormant without making new growth.

SCALE INSECTS (Coccidae)

Alabama J. M. Robinson (February 27): Citrus scales are moderately abundant at Spring Hill.

FLORIDA RED SCALE (Chrysomphalus ficus Ashm.)

Florida X J. R. Watson (February 24): The Florida red scale is more abundant than it was a year ago.

CALIFORNIA RED SCALE (Chrysomphalus aurantii Mask.)

Arizona C. D. Lebert (February 25): A severe infestation on citrus in Mesa was observed January 14-25. The scales were mature or nearly so.

PURPLE SCALE (Lepidosaphes beckii Nown.)

Florida X J. R. Watson (February 24): The purple scale is moderately abundant.

H. T. Fernald (February 24): The purple scale is moderately abundant at Orlando; more abundant than last year.

COTTONY-CUSHION SCALE (Icerya purchasi Mask.)

Arizona C. D. Lebert (February 25): Several mature females of the cottony-cushion scale were found in old infested areas in the Salt River Valley during January and February.

CITRUS WHITEFLY (Dialeurodes citri Ashm.)

Florida X J. R. Watson (February 24): The citrus whitefly is moderately abundant; more so than for several years.

Mississippi H. Dietrich (February 25): The citrus whitefly is moderately abundant on Satsuma orange at Lucedale; very abundant on cape jasmine in George, Greene, and Perry Counties.

TRUCK - CROP INSECTS

VEGETABLE WEEVIL (Listroderes obliquus Gyll.)

Alabama

J. M. Robinson (February 27): Weevil larvae are moderately abundant, feeding on lettuce, turnip tops, and turnip bulb. Larvae and pupae present at Andalusia, Auburn, and Grove Hill. (We can not definitely identify until adults emerge.)

Mississippi

K. L. Cockerham (February 4): Larvae of this insect were found damaging cabbage and turnip in a garden in Biloxi to such an extent that spraying was resorted to for control.

R. W. Harned (February 23): The first specimens of the vegetable weevil to be received at this office during 1931 came from Vicksburg on January 26. The correspondent sent in several larvae with the report that they had practically destroyed a 2-acre field of turnips. Severe injury by the larvae to cabbage plants in the hot bed was reported from Mendenhall on February 13, and to turnip greens from Neshoba on February 18. A correspondent at Fayette reported on February 20 that vegetable weevil larvae were causing serious damage to almost all garden vegetables. One adult and several larvae were collected on turnips at Meridian on February 17.

G. L. Bond (February 25): The vegetable weevil was found to be quite numerous on turnips in a field near Maselle.

Henry Dietrich (February 25): Larvae were found sparingly this year all over George County but nowhere doing any damage.

J. P. Kislanko (February 26): The vegetable weevil is very abundant this winter in Stone County and the southern part of Forrest County, causing very severe damage to turnip, cabbage, carrot, and other vegetables.

BANDED CUCUMBER BEETLE (Diabrotica balteata Lec.)

Florida

J. R. Watson (February 24): We have been receiving a good many specimens of Diabrotica balteata. This seems to be a new arrival in Florida, particularly in the peninsular part of the State, as it is not listed from Florida in any of the older lists. The State Plant Board listed it from western Florida as long ago as eight years, but it now seems to be all over the State; although abundant, it is not injurious as yet.

WESTERN SPOTTED CUCUMBER BEETLE (Diabrotica soror Lec.)

Oregon

T. R. Chamberlin (January 29): Diabrotica soror has been leaving the winter "caches" for the last two or three days

and many are on the wing. They are leaving the caches about one month earlier than in 1930, probably owing to the absence of snow upon the ground and some unusually warm days toward the end of January in Forest Grove. (February 27): In spite of the fact that Diabrotica soror left the caches in the vicinity of Forest Grove about 1 month earlier than last year, they have not been found abundantly in the fields since issuance and egg development in the ovaries is little if any in advance of what it was at this time last year.

Don C. Mote (February 24): Observed one adult feeding on the leaves of seedling marigolds at Corvallis on February 23.

SEED CORN MAGGOT (Hylemyia cilicrura Rond.)

Mississippi

R. W. Harned (February 23): Injury to English pea plants by Phorbia fusciceps was reported from Excatawpa on January 21.

NORTHERN MOLE CRICKET (Grillotalpa hexadactyla Perty)

Alabama

J. M. Robinson (February 27): Mole crickets are moderately abundant at Auburn.

PILLBUGS (Oniscidae)

Mississippi

R. W. Harned (February 23): A correspondent at Sherard reported that pillbugs were very abundant in his garden on February 9.

POTATO

COLORADO POTATO BEETLE (Leptinotarsa decemlineata Say)

Florida

J. R. Watson (February 24): The Colorado potato beetle is still in hibernation.

Alabama

J. M. Robinson (February 27): Damage by the Colorado potato beetle is anticipated at Pell City.

Mississippi

H. Dietrich (February 25): The first adult was observed at Iucedale on February 19, attacking tomato plants in a seed bed.

Texas

F. L. Thomas (February 27): Colorado potato beetle - not yet observed.

SPINACH

A MAGGOT (Hylemyia sp.)

Mississippi G. L. Bond (February 25): Dipterous larvae were attacking young roots of young spinach in field near Laurel; about one-half to three-fourth of the spinach died, and upon examination the root stems were found to be hollow. The small larvae were found in the ground beside the spinach and from all indications were responsible for the damage.

CABBAGE

CABBAGE APHID (Brevicoryne brassicae L.)

Virginia Floyd F. Smith (February 11): It is estimated that 2 per cent of the population present at Arlington Farm, Rosslyn, in November, 1930, is still alive on rape plants. It is evidently that this aphid will spend the entire winter here as an agamic female. A Japanese variety of rape seems to be more severely attacked than any of the other varieties growing near by.

Mississippi R. W. Harned (February 23): Aphids identified by A. L. Hamner as Brevicoryne brassicae were abundant on cabbage plants collected at Okolona on February 6.

Henry Dietrich (February 25): Brevicoryne brassicae was very abundant on collards at Leesville.

GREEN PEACH APHID (Myzus persicae Sulz.)

Mississippi R. W. Harned (February 23): A slight infestation of Myzus persicae on cabbage was reported from Okolona on February 6.

Henry Dietrich (February 25): This aphid was extremely abundant on turnips at Lucedale in November and December, 1930.

HARLEQUIN BUG (Murgantia histrionica Hahn)

Florida X J. R. Watson (February 24): The harlequin bug has not yet appeared in the fields.

Mississippi Henry Dietrich (February 25): The harlequin bug was very bad in George, Greene, and Perry Counties on collards last November and December.

Texas F. L. Thomas (February 27): The harlequin bug has not come to our attention yet.

DIAMOND-BACK MOTH (Plutella maculipennis Curt.)

Mississippi

R. W. Harned (February 23): Plutella maculipennis was collected on a cabbage plant at Okolona on February 6.

Henry Dietrich (February 25): Larvae were found in large numbers on cabbage, both plants in beds and set out at Lucedale; adults and pupae also present in February.

Arizona

C. D. Lebert (February 25): Diamond-back moths are abundant on cabbage in the Salt River valley. Larvae were mining the leaves on January 25.

IMPORTED CABBAGE WORM (Pieris rapae L.)

North Carolina

R. W. Leiby (February 19): An adult was observed on the wing February 19 at Raleigh. This is not unusual, for we have records of the occurrence of this adult for every month in the year at Raleigh.

Missouri

L. Haseman (February 26): During the noon hour today I saw my first cabbage butterfly on the wing at Columbia.

CABBAGE MAGGOT (Hyalemyia brassicae Bouche)

Alabama

J. M. Robinson (February 27): The cabbage maggot is moderately abundant at Auburn; 25 per cent of the lettuce in one garden has been destroyed.

STRAWBERRY

STRAWBERRY ROOT APHID (Aphis forbesi Weed)

Alabama

J. M. Robinson (February 27): The strawberry root louse is moderately abundant, killing plants in beds at Geneva.

ASPARAGUS

ASPARAGUS MINER (Agromyza simplex Loew)

California

H. J. Ryan (January 15): The asparagus miner has recently been added to the short list of insects attacking asparagus in southern California, through the finding of an infestation in a field at Norwalk. A check of fields in adjacent areas shows it to be of more or less general occurrence in that part of Los Angeles County, and reports have since been received indicating that it also occurs in the San Fernando Valley. This pest seems to be well distributed over the world and has previously been recorded as being very abundant in the Sacramento and San Joaquin delta regions of California, but apparently has not previously been recorded from the southern part of the State.

PEAS

PEA APHID (Illinoia pisi Kalt.)

- Arizona. C. D. Lebert (February 25): The Salt River Lettuce Growers Association reported severe infestations of pea aphids on peas near Mesa and Tempe in February and numerous small infestations on alfalfa in the Salt River Valley.
- Oregon L. P. Rockwood (February 2): A few pea aphids were found in a field near Forest Grove, where Austrian peas had been disked back in August into land which had grown this crop in 1930. Fields which had been seeded in October showed no aphids, on the other hand a few aphids were found on Austrian peas in a field which was seeded in early October near McMinnville. The peas had made an unusually large growth for this time of year. No aphids were found on this crop in fields seeded in November. (February 12-23): The pea aphid increased in numbers during the mild weather of January and early February on vetch seeded for a cover crop in an orchard near Forest Grove. This vetch was seeded in August or early September, 1930. On February 12, aphids averaged 150 to each 100 sweeps of the net and vetch was just beginning to show injury. By February 23 there had been a considerable reduction in the number of aphids, averaged 30 to 100 sweeps of the net. This indicated a reduction of about 80 per cent which was probably due to a fungus disease which was present.

MELONS

STRIPED CUCUMBER BEETLE (Diabrotica vittata Fab.)

- Florida X J. R. Watson (February 24): The striped cucumber beetle is moderately abundant in the everglades.
- Texas F. L. Thomas (February 27): The striped cucumber beetle seen by R. K. Fletcher and S. L. Jones on February 5, in an alfalfa patch near College Station.

MELON APHID (Aphis gossypii Glov.)

- Mississippi R. W. Harned (February 24): Mr. Hanner reports that the melon aphid is very scarce this winter as compared to the four previous winters on its overwintering hosts, curly dock (Rumex crispus) and henbit (Lamium amplexicaule).

PICKLE WORM (Diaphnia nitidalis Stoll)

- Alabama J. M. Robinson (February 27): Damage by cantaloupe worms is anticipated at Collinsville.

TURNIPS

TURNIP APHID (Rhopalosiphum pseudo brassicae Davis)

North Carolina R. W. Leiby (February): This insect has been reported on cabbage plants from eastern Carolina. It is not known if it is abundant. This is a rather early record for its appearance in injurious numbers.

Mississippi G. L. Bond (February 25): Turnip lice are quite numerous on turnips near Maselle.

Texas F. L. Thomas (February 27): The turnip louse has been in evidence throughout the winter in Galveston County and began to drift with the wind in large number February 5, according to J. U. Roney, in charge of the Plant Lice Laboratory at Dickinson.

TURNIP ROOT APHID (Pemphigus populitransversus Riley)

Mississippi J. P. Kislanko (February 26): The turnip root aphid is very abundant in the vicinity of Perkinston.

MUSHROOMS

A FUNGUS GNAT (Sciara sp.)

Ohio M. P. Jones (January 23): The flies which were collected in a mushroom house at Columbus, January 2, have been determined as Sciara sp. by C. T. Greene.

Miscellaneous truck pests.

APHIDS (Aphidae)

Mississippi Henry Dietrich (February 25): Aphids (undetermined at present) are extremely abundant on mustard, cabbage, and turnip at Lucedale. The unusual numbers of aphids this winter are no doubt due to mild and dry winter.

TARNISHED PLANT BUG (Lygus pratensis L.)

Alabama J. M. Robinson (February 27): The tarnished plant bug is moderately abundant on vegetables and legumes at Auburn.

Mississippi Henry Dietrich (February 25): The tarnished plant bug has been common on garden truck at Lucedale during February.

F O R E S T A N D S H A D E - T R E E I N S E C T S

BAGWORM (Thyridopteryx ephemeraeformis Haw.)

Mississippi

H. Dietrich (February 25): Evergreen bagworms are extremely abundant on arborvitae in southern George County. A lady picked over 500 off one tree about 6 feet high and 6 feet in diameter; not much was left of the foliage.

BROWN-TAIL MOTH (Nygmia phaeorrhoea Don.)

New Hampshire

P. R. Lowry (February): The winter webs of the brown-tail moth are common and generally distributed over south-eastern New Hampshire.

PINE

Mississippi

A PINE CONE MOTH (Carpocapsa toreuta Grote)

Mississippi

H. Dietrich (February 25): Laspeyresia toreuta Grote (identified by C. Heinrich from adults reared at Lucedale last spring). The larvae are again very abundant in cones of pines in cut-over areas, but scarce in virgin timber. The larvae have been taken from the cones of Pinus echinata, P. taeda, P. palustris and P. caribea, in southern Mississippi; especially Pearl River, Perry, Greene, George, and Jackson Counties. In cut-over areas of P. palustris where seed trees are far between, the cones are heavily infested, each cone having from 1 to 10 larvae; in the more heavily infested cones practically all seeds are destroyed. The larvae live in the pith of the cone and only go out into the seed to feed.

RED-HEADED PINE SAWFLY (Neodiprion lecontei Fitch)

Florida

X F. J. R. Watson (February 24): LeConte's sawfly has been reported defoliating pines.

A LECANIUM (Lecanium numismaticum Pettit & McDaniel)

Mississippi

H. Dietrich (February 25): Lecanium numismaticum is very abundant on young longleaf pine near Leakesville.

INSECTS AFFECTING GREENHOUSE AND
ORNAMENTAL PLANTS AND LAWNS

ARBORVITAE

APHID (Aphididae)

South Dakota H. C. Severin (February 19): Aphid eggs have passed the winter very successfully. We have no important fruit-tree aphids to speak of in South Dakota, but we have plenty of other aphids which give us considerable trouble, and these seem to have passed the winter very successfully.

AN APHID (*Dilachus thujaefolia* Theob.)

Ohio E. W. Mendenhall (February 7): The American arborvitae used as understock for junipers were badly infested with the arborvitae aphid. The infestation was in one of the greenhouses in Springfield.

Mississippi H. Dietrich (February 25): This aphid was general on arborvitae at Lucedale all winter, in a few cases evidently in destructive numbers.

Arizona C. D. Lebert (February 25): The arborvitae aphid was very numerous on stems of arborvitae in a local nursery in Phoenix, February 24. Many plants coated with honey dew and black smut.

A SCALE (Coccidae)

Washington Wm. W. Baker (February 5): Cuttings of Thuja were sent in from Chehalis by an inspector which were heavily infested with an immature scale similar to our common locanum but smaller in size and differing somewhat from it. These cuttings were taken from shrubs growing out of doors and the young scales were quite active when the cuttings arrived.

RED SPIDER (*Tetranychus telarius* L.)

Virginia M. P. Jones (March 3): Evergreens heavily infested with eggs of the red spider were collected at Lynchburg.

CAMELLIA

CAMELLIA SCALE (*Lepidosaphes camelliae* Boisd.)

Mississippi H. Dietrich (February 25): The camellia scale is abundant on Camellia japonica at Lucedale.

CEDAR

WEEVILS (Pissodes spp.)

Mississippi

R. W. Harned (February 23): Weevils, very probably Pissodes deodarae Hopk., were found injuring Cedrus deodara plants at Hattiesburg on January 26.

H. Dietrich (February 25): Pissodes nemorensis Germ. was extremely abundant all winter at Lucedale on Cedrus deodara. The first adults were observed on October 29. No dying trees observed as yet at Lucedale. Evidently beetles did not oviposit on Cedrus this year.

PALES WEEVIL (Hylobius pales Boh.)

Mississippi

H. Dietrich (February 25): The weevil Hylobius pales was found feeding on bark of living Cedrus deodara.

EUONYMUS

EUNYMUS SCALE (Chionaspis eunyni Comst.)

Virginia

M. P. Jones (March 2): The euonymus scale was found slightly infesting climbing euonymus at Charleston and also observed on some shrubs at the Experiment Station at Norfolk.

FERN

FERN SCALE (Hemichionaspis aspidistrae Sign.)

Mississippi

H. Dietrich (February 25): The fern scale is quite prevalent on ferns at Lucedale and Richton.

I N S E C T S A T T A C K I N G M A N A N D
D O M E S T I C A N I M A L S

MAN

MOSQUITOES (Anopheles spp.)

Mississippi

H. Dietrich (February 25): Mosquitoes (Anopheles punctipennis Say and A. quadrimaculatus Say) were abundant in Pascagoula swamp, George County, in January toward sundown on warm days.

HOUSE FLY (Musca domestica L.)

Mississippi

H. Dietrich (February 25): House flies were present throughout the winter at Lucedale.

FLEAS (Siphonaptera)

Kansas

H. R. Bryson (February 20): Fleas are reported as troublesome in barns and dwellings in some sections.

CHIGGER (Trombicula irritans Riley)

Mississippi

H. Dietrich (February 25): I was much surprised to find myself covered with "lumps" due to chiggers, in January, after sitting on the ground sifting for insects and spiders in Pascagoula Swamp.

HORSE

HORSE BOTFLIES (Gastrophilus spp.)

Missouri

F. D. Butcher (January): At the clinic held at Columbia January 19-21 it was learned that horse bots (Gastrophilus intestinalis DeG. and G. nasalis DeG.) had been a factor in the death of a horse.

HOUSEHOLD AND STORED-PRODUCTS

INSECTS

TERMITES (Isoptera)

Arizona

C. D. Lebert (January 1): Termites have done severe damage to a schoolhouse near Phoenix. Hardwood floor eaten in many places and subtimbers (pine) severely tunnelled. Several homes in Phoenix infested from slightly to severely with the subterranean termite. In most cases Heterotermes aureus Snyder. (February 25): The desert termite Amitermes arizonensis Banks was observed in January around roots of greasewood. Many winged individuals were out after heavy rains in February.

Alabama

J. M. Robinson (February 27): Termites (Reticulitermes spp.) are moderately abundant at Dothan, damaging an office building. Termites are moderately abundant at Athens, attacking floors and woodwork of a residence.

ARGENTINE ANT (Iridomyrmex humilis Mayr)

Mississippi

M. R. Smith (February 21): An Argentine ant infestation has recently been reported from Foxworth. The definite limits of the infestation have not yet been determined.

Alabama

H. Dietrich (February 25): On Main Street, Livingston, we came across a large exhibit of balled plants from Jungle Gardens, New Orleans, La. On investigation we found active Argentine ants that evidently had established themselves. Inquiry at the restaurant where we had dinner showed that the ants were not all over town yet.

FIRE ANTS (Solenopsis spp.)

Mississippi

H. Dietrich (February 25): Fire ants (Solenopsis geminata Fab.) were very annoying and numerous in several houses in New Augusta last November.

M. R. Smith (February 21): Fire ants (Solenopsis xyloni McCook) have been the cause of a number of complaints during the winter. The ants usually have constructed their nests around hearths or in the basement of houses and from these vantage points raid kitchens and pantries even in very cold weather. On one occasion our attention was called to a nest of fire ants in a greenhouse. Workers were not only gnawing into the base of small corn plants (approximately 6 inches high) but also carrying off barley seed from a sack near by.

HONEY ANT (Preholepis imparis Say)

Mississippi

M. R. Smith (February 21): Jack Milton, State Plant Board Inspector at Corinth, sent in workers for determination. He stated that the ants were found infesting a house at Corinth. The kind of food the ants were eating was not mentioned. This species is very little affected by cold weather, as many observers have noted.

LARGE CARPENTER ANT (Camponotus herculeanus L.)

Kansas

H. R. Bryson (February 20): One Carpenter ant frequenting a dwelling was reported on January 20 from Salina. There was a similar report from Manhattan. The mildness of the winter temperature has encouraged this pest in its foraging habits.

BOX ELDER BUG (Leptocoris trivittatus Say)

Oregon

Don C. Mote (February 24): Adults have been observed moving around on warm days. Quite a few reports have been received of their being abundant in houses and being somewhat of a nuisance.

HOUSE CRICKET (Gryllus domesticus L.)

New Hampshire

P. R. Lowry (February): Several records have been received in the last two months of this species in houses in Dover and Portsmouth.

Mississippi

R. W. Earned (February 23): Crickets were reported as very abundant in a residence at Meridian on January 9.

EUROPEAN EARWIG (Forficula auricularia L.)

Oregon

L. P. Rockwood (February 27): Earwigs were out of winter quarters in late January and early February during period of mild springlike weather. Seen on sidewalks in Forest Grove.

Don C. Mote (February 24): European earwig ^{males} were observed moving about January 30. Two young second instar and a few females observed above ground at Newport, and on February 7 a male and a mating pair were observed at Portland.

CLOVER MITE (Bryobia praetiosa Koch)

Kansas

H. R. Bryson (February 13): The clover mite has been reported as troublesome in a dwelling in Kansas City. This pest was reported congregating in large numbers in the same house last fall. Owing to the exceptionally mild winter the adults have been successful in passing the winter.

INDIAN-MEAL MOTH (Plodia interpunctella Hbn.)

Mississippi H. Dietrich (February 25): The Indian-meal moth is badly infesting peanut-caramel candy in a drugstore at Lucedale. Adults emerged November 16 and throughout the winter.

RICE WEEVIL (Calendra oryzae L.)

Mississippi H. Dietrich (February 25): The corn weevil is very abundant in corn in southern Mississippi.

RUST-RED FLOUR BEETLE (Tribolium ferrugineum Fab.)

Mississippi H. Dietrich (February 25): The rust-red flour beetle is very common in dry cereals at one store in Lucedale.

MERCHANT GRAIN BEETLE (Oryzaephilus mercator Fawc.)

Mississippi H. Dietrich (February 25): The merchant grain beetle is abundant in peanut-caramel candy at Lucedale.

CIGARETTE BEETLE (Lasioderma serricorne Fab.)

Mississippi H. Dietrich (February 25): Larvae of the tobacco beetle are abundant in old cigarettes and tobacco in a store in Lucedale; adults emerged February 19. Larvae, pupae, and dead adults were extremely abundant in a package of a patent rat remedy at Lucedale. The remedy was in a friction-top tin can and the contents were completely destroyed.

INSECT CONDITIONS IN PORTO RICO DURING THE FISCAL YEAR ENDED JUNE 30, 1930.

M. D. Leonard

Insular Experiment Station, Rio Piedras, Porto Rico.

SUGARCANE

The sugarcane borer (Diatraea saccharalis Fab.) is always more serious on the south coast than elsewhere on the Island. According to Mr. Pedor Richardson, cane technologist at the Insular Experiment Station for the past several years, it is less injurious than it has been for years.

The sugarcane root caterpillar (Perforadix sacchari Sein), according to Mr. Sein, is generally distributed throughout the sugarcane-growing sections of the Island and doing considerable damage in the aggregate.

Consensus of opinion is that white grubs (Phyllophaga spp.) have been less of a factor during the past few years on sugarcane than formerly. During this past year they were somewhat more abundant and injurious on the north coast but about as injurious as usual on the south coast.

The sugar company at Caguas reported considerable damage by the changa (Scapteriscus vicinus Scud.), especially on the more sandy types of soil. It also did considerable damage in Bayamon -- Aguas Buenas. In both the above cases the damage was to sugarcane. This insect is most injurious to sugarcane in the tobacco zone and the Turabo Valley, including Humacao, Las Piedras, and Juncos. It was also reported as severely damaging tomatoes in Caguas on the more sandy soils. The changa (Scapteriscus vicinus Scud.) did considerable damage in February and March to peppers being grown for canning purposes at Rio Piedras.

In May a considerable infestation of the yellow cane aphid (Sipha flava Forbes) started at Aguirre but ladybeetles were reported to have checked it before any undue amount of damage resulted. Often rather injurious during the beginning of the summer, especially during the dry spells and in the southwestern part of the Island. Apparently the past year was about normal for this pest attacking sugarcane.

TOBACCO

Horn worms (Protoparce sexta Joh. var. jamaicensis Butl.) were reported by J. A. B. Nolla as doing severe damage to tobacco during part of the year at Caguas.

The potato flea beetle (Epitrix cucumeris L.) has been generally present in both seed beds and in the fields of tobacco but not especially injurious except on newly set plants in the Cayey-Aibonito district.

Both the large tobacco suckfly (Dicophus luridus Gibson) and the smaller one (D. prasinus Gibson) were observed in many tobacco fields

but apparently they are not very injurious. In March, 1930, the larger tobacco suckfly caused considerable trouble by destroying the buds and blossoms in a large cross-pollination test in a field in Caguas.

Cutworms (Noctuidae) have been generally present both in tobacco seedbeds and in the field but not especially injurious, except on newly set plants in the Cayey-Aibonito district.

CITRUS

The Florida red scale (Chrysomphalus ficus Ashm.) and the purple scale (Lepidosaphes beckii Newm.) were about as injurious to citrus as usual.

White grubs (Phyllophaga spp.) were occasionally reported as injurious to young citrus trees.

Reports have been received of a little damage to citrus by the vaquita (Diaprepes spengleri L.)

A red spider (Tetranychus sp.) was more injurious on citrus than usual during the excessively dry spring and summer.

The citrus rust mite (Phyllocoptes oleivorus Ashm.) was more injurious to citrus than usual during the excessively dry spring and summer.

COCOA

The rhinoceros beetle (Strategus quadrifoveatus P. de B.) was destructive in almost all cocoa plantings, but apparently more injurious along the eastern and southern coasts. The Extension Division has been conducting a clean-up campaign against this pest, which has been more injurious since the hurricane of 1928 than formerly.

CASSAVA

A rare root weevil, Coelosternus sulcatulus Boehm., was found for the first time in Porto Rico in March, 1930, infesting about 2 acres of cassava, high above Comerio. Above 10 per cent of the underground stems were rendered worthless for use.

BANANA

The banana root borer (Cosmopolites sordidus Germ.) is now generally distributed in most parts of the island and doing considerable injury to bananas and especially to plantains in many sections.

COFFEE

The coffee leaf miner (Leucoptera coffeella Staint.) was more injurious than usual and more injurious in the wetter sections than in those with

less rainfall. In the extensive seed beds grown by the agricultural agents with the help of Red Cross funds for the rehabilitation of the coffee industry the pest, owing to systematic and thorough spraying, was of little importance.

BEANS

The beetle (Diabrotica graminea Baly) has been more abundant and injurious than previously, owing no doubt to the increase of plantings of string beans since the hurricane of September, 1928. Severe infestations were reported from Caguas in the spring and summer of 1929.

A bean leaf beetle, Cerotoma denticornis Fab., was generally present in all bean plantings and doing some damage, especially where no spraying had been done.

The bean lacebug (Corythucha gossypii Fab.) was injurious to several small plantings of lima beans during the summer of 1930 at Rio Piedras and at Palo Seco; the leaves turned whitish or brownish and some fell, greatly reducing pod formation.

A leafhopper, Imposca sp., was common and often very injurious to small patches of beans which were unsprayed.

The bean pod borer (Maruca testulalis Geyer) was not very common in lima or string beans during the spring and summer, probably owing to the fact that the host plant is scarce during these seasons.

The bean leaf roller, (Goniurus proteus L.) was present in most plantings of beans that were examined.

EGGPLANT

The potato flea beetle (Epitrix cucumeris Harr.) was very injurious, especially in seed-beds and in the field at Rio Piedras from March to May, 1930, but most of the damage in the field as usual was done from late September on.

The melon aphid (Aphis gossypii Glov.) was more or less injurious to eggplant all over the Island throughout the year.

The eggplant lacebug (Corythucha monacha Stal) has been common and often very injurious where spraying has not been frequent and thorough.

Climbing cutworms (Noctuidae) did considerable damage to the buds and to young eggplant on experimental plots at the Insular Experiment Station at Rio Piedras.

A leaf tier (Psara perusialis Walk.) has done considerable damage to eggplant both in the seed bed and in the field at Rio Piedras from September to January, but little trouble has been noticed since.

ONION

The onion thrips (Thrips tabaci Lind.) was generally present during the drier periods and was often very injurious to onions from January to July.

Cutworms (Noctuidae) were injurious to onions at Rio Piedras and Cayey in onion seed bed during January and in the field from November to March.

POTATOES, IRISH AND SWEET

Around 300 acres of Irish potatoes were grown in the Island during the year. An inspection tour to demonstration plots at Comerio and Barranquitas late in February when the crop was fairly well along showed a fair amount of flea-beetle (Epitrix cucumeris Harr.) damage, a few leafhoppers, (Eupoasca fabae Harr.), and a few aphids (Aphidae).

The sweet-potato weevil (Cylas formicarius Fab.) was present and frequently very injurious in apparently all parts of the Island.

A leaf miner (Agromyza sp.) has been found in several localities and while fairly common in some patches of sweet potatoes is of only minor importance.

ALFALFA

A moth (Dichomeris piperata Wlsm.) was first found in Porto Rico last year (1929) reducing the crop of alfalfa up to at least 30 per cent on a 2-acre experimental plot under irrigation at the sub-experimental plot at Isabela. The leaves are webbed together by the caterpillar and skeletonized. It was not present, however, on a small planting at Rio Piedras.

A leaf-miner, Agromyza sp., was common in the field at Rio Piedras during the early summer but apparently not abundant enough to be injurious to alfalfa.

COWPEA

The cowpea pod and stalk borer (Fundella cistipennis Dyar) was reared from pods at Rio Piedras in May.

The tobacco budworm (Heliothis virescens Fab.) larvae were fairly common, eating large holes in the pods at Rio Piedras in May. Moths emerged June 1 and 2, 1930, from pupae formed from May 20 to May 23.

The lima bean pod borer (Etiella zinckenella Treit.) was reared from cowpea pods at Rio Piedras in May.

COTTON

Several outbreaks of the cotton leaf worm (Alabama argillacea Hbn.) occurred throughout the cotton section, necessitating considerable spraying.

The pink boll worm (Pectinophora gossypiella Saund.) was generally distributed throughout the cotton sections of the north and south coasts but was not very injurious to cotton.

A leaf miner (Nepticula gossypii Fbs. & Leon.) was first discovered in March, 1930, and described as a new species. It was present in the majority of fields of cotton on the south coast in the spring until crops were harvested, often with nearly all the leaves full of miners, but apparently little damage was done to the crop. No infestation was found on north coast.

Cotton stainers (Dysdercus andreae L. and D. neglectus Uhl.) were generally distributed but not very injurious, although abundant in several cotton fields on the south coast in March, 1930.

The cotton lacebug (Corythucha gossypii Fab.) was present in small numbers on occasional leaves of cotton in various sections.

The cotton aphid (Aphis gossypii Glov.) was often found in small numbers on the leaves of cotton.

A scale insect, Saissetia nigra Nietn., was generally present and often fairly abundant on cotton but apparently was of little importance.

A leafhopper, Eupoasca sp., was often found in small numbers throughout the cotton-growing sections but was not injurious.

A leaf mite (Eriophyes gossypii Glov.) was generally distributed, but scarce and doing but little injury.

A LIST OF INSECT PESTS IN HONDURAS AND GUATEMALA DURING 1930.

Marston Bates,
Lancetilla Experiment Station, Tela, Honduras.

Honduras (all records from Tela).

Insect	Host plant
<u>Aspidiotus destructor</u> Sign.	<u>Eugenia jambolana</u> (Malabar-plum)
<u>Aspidiotus lataniae</u> Sign.	<u>Averrhoa carambola</u> (Carambola)
<u>Saissetia oleae</u> Bern.	<u>Lawsonia inermis</u> (Henna)
<u>Saissetia hemisphaerica</u> Targ.	<u>Achras sapota</u> (Sapodilla)
	<u>Annona muricata</u> (Soursop)
	<u>Chrysophyllum cainito</u> (Star-apple)
	<u>Citrus</u> sp.
	<u>Coffea</u> sp.
	<u>Diospyros kaki</u> (Kaki persimmon)
	<u>Garcinia spicata</u>
<u>Pseudococcus brevipes</u> Ckll.	<u>Ananas sativus</u> (Pineapple)
	<u>Saccharum officinarum</u> (Sugarcane)
<u>Pseudococcus virgatus</u> Ckll.	<u>Annona</u> sp.
<u>Coccus hesperidum</u> L.	<u>Albizzia moluccana</u>
	<u>Guilielma utilis</u>
<u>Pseudaonidia articulatus</u> Morg.	<u>Diospyros kaki</u> (Kaki persimmon)
	<u>Tabernaemontana coronaria</u> (Cape-jasmine)
<u>Ceroplastes floridensis</u> Comst.	<u>Citrus grandis</u> (Grapefruit)
<u>Hemichionaspis minor</u>	
<u>strachani</u> Colley	<u>Severine buxifolia</u>
<u>Icerya montserratensis</u> R. & H.	<u>Citrus</u> spp.
<u>Parlatoria pernandii</u> Comst.	<u>Severina buxifolia</u>
<u>Lepidosaphes coronaria</u>	<u>Tabernaemontana coronaria</u> (Cape-jasmine)
<u>Trionyxus sacchari</u> Ckll.	<u>Saccharum officinarum</u> (Sugarcane)
<u>Chrysomphalus distyospermi</u> Morg.	<u>Garcinia spicata</u>
<u>Vinsonia stellifera</u> Westw.	<u>Garcinia spicata</u>
<u>Aphis gossypii</u> Glov.	<u>Annona squamosa</u> (Custard apple)
	<u>Hibiscus rosa-sinensis</u> (Chinese hibiscus)
<u>Cerataphis lataniae</u> Boisd.	<u>Ptychosporna</u> sp.
<u>Frankliniella insularis</u> Frank.	<u>Citrus</u> spp.
<u>Papilio anchisiades</u> Esper.	<u>Citrus</u> spp.
<u>Solenopsis geminata</u> Fab.	<u>Citrus</u> spp.
<u>Utetheisa ornatrix</u> L.	<u>Crotalaria</u> spp.
<u>Stenoma annonella</u> Sepp.	<u>Annona muricata</u> (Soursop)
<u>Megalura peleus</u> Sulz.	<u>Ficus carica</u> (Common fig)
<u>Eantis pallida</u> Feld.	<u>Citrus</u> spp.
<u>Cocytius antaeus</u> Drury	<u>Annona muricata</u> (Soursop)
<u>Trigona amalthea</u> Oliv.	<u>Citrus</u> spp.
<u>Trigona sylvestriana</u> Vachal	<u>Citrus</u> spp.

Guatemala

Insect

Host plant

Toxoptera aurantiae Boy.

Theobroma cacao (Cacao) at Retalhuleu

Coffea arabica (Arabian coffee)

Citrus spp.

Neotoxoptera n. sp.

Dolichos sp. at Chimaltenango

Aphis gossypii Glov.

Persea americana (Avocado) in Antigua region

Eriobotrya japonica (Loquat) in Antigua region

Brevicoryne brassicae L.

Cabbage at Tumbador, San Marcos

Macrosiphum luteum Theob.

Orchid at Tumbador, San Marcos

Myzaphis spp.

Rosa sp. at Colimba and San Marcos.

Myzus persicae Salz.

Citrus sp.

Cicadella instrata

Coffea arabica (Arabian coffee)

Grevillea sp.

Saissetia hemisphaerica Targ.

Achras sapota (Sapodilla)

Annona muricata (Boursop)

Chrysophyllum cainito (Star apple)

Citrus sp.

Coffea sp.

Diospyros kaki (Kaki persimmon)

Garcinia spicata

Frankliniella n. sp.

Rosa spp. at Colombo

Frankliniella n. sp.

Coffea arabica (Arabian coffee) at Patulul

Frankliniella achaeata Hood

Prunus malus at Quezaltenango

Frankliniella insularis Frank.

Citrus spp.

Frankliniella occidentalis Perg.

Prunus malus at Quezaltenango

Frankliniella stylosa Hood

Coffea arabica (Arabian coffee) at Patulul

Eantis pallida Feld.

Rosa sp. at San Marcos

Uthetseia ornatatrix L.

Citrus spp.

Papilio anchisiades Esper.

Crotalaria spp.

Citrus spp. on north coast.

